

4645.0844

- 2 -

In the Claims:

1. to 8. (Canceled)

9. (Currently Amended) A method for providing a cathode electrode, comprising the steps of:

- a) providing  $\gamma$ -phase silver vanadium oxide having the formula  $Ag_{1.2}V_3O_{8.1}$ ;
- b) mixing the  $\gamma$ -phase silver vanadium oxide with a metal salt to form a reaction mixture;
- c) heating the reaction mixture mixtures to at least one reaction temperature in an oxidizing atmosphere to produce an electrode active material selected from the group consisting of  $Ag_2V_4O_{11}$ ,  $Cu_{0.2}Ag_{0.8}V_2O_{5.6}$ ,  $Mn_{0.2}Ag_{0.8}V_2O_{5.8}$  and  $Mg_{0.2}Ag_{0.8}V_2O_{5.6}$ ; and
- d) utilizing the product electrode active material in a cathode electrode.

10. (Original) The method of claim 9 including cooling the electrode active material from the reaction temperature to an ambient temperature in an oxidizing atmosphere.

4645.0844

- 3 -

11. (Original) The method of claim 9 including selecting the metal salt from the group consisting of silver lactate, silver triflate, silver pentafluoropropionate, silver laurate, silver myristate, silver palmitate, silver stearate, silver vanadate, silver oxide, silver carbonate, copper oxide, copper carbonate, manganese carbonate, manganese oxide, magnesium carbonate, magnesium oxide, and combinations and mixtures thereof.

12. (Original) The method of claim 9 including providing the metal salt as  $\text{Ag}_2\text{O}$  such that the product  $\text{Ag}_2\text{V}_4\text{O}_{11}$  has a BET surface area of about  $0.54 \text{ m}^2/\text{g}$ .

13. (Original) The method of claim 9 including providing the metal salt as  $\text{Ag}_2\text{CO}_3$  such that the product  $\text{Ag}_2\text{V}_4\text{O}_{11}$  has a BET surface area of about  $0.44 \text{ m}^2/\text{g}$ .

14. (Original) The method of claim 9 including providing the metal salt as  $\text{CuO}$  such that the product  $\text{Cu}_{0.2}\text{Ag}_{0.8}\text{V}_2\text{O}_{5.6}$  has a BET surface area of about  $0.31 \text{ m}^2/\text{g}$ .

15. (Original) The method of claim 9 including heating the reaction mixture to the at least one reaction temperature in a range from about  $300^\circ\text{C}$ . to about  $550^\circ\text{C}$ .

16. (Original) The method of claim 9 including heating the reaction mixture to the at least one reaction temperature for a period of about 5 hours to about 30 hours.

4645.0844

- 4 -

17. (Original) The method of claim 9 wherein the step of utilizing the electrode active material to form the cathode electrode includes the addition of a binder and a conductive material.

18. (Original) The method of claim 16 wherein the cathode electrode further comprises about 0 to about 3 weight percent of a carbonaceous conductive additive, about 0 to about 3 weight percent of a fluoro-resin powder, and about 94 to about 99 weight percent of the electrode active material.

19. to 39. (Canceled)

40. (New) A method for producing a cathode active material, comprising the steps of:

- a) providing  $\gamma$ -phase silver vanadium oxide having the formula  $Ag_{1.2}V_3O_{8.1}$ ;
- b) mixing the  $\gamma$ -phase silver vanadium oxide with  $Ag_2O$  to form a reaction mixture; and
- c) heating the reaction mixture to at least one reaction temperature in an oxidizing atmosphere to produce an  $\epsilon$ -phase silver vanadium oxide having the formula  $Ag_2V_4O_{11}$ .

41. (New) The method of claim 40 wherein the  $\epsilon$ -phase silver vanadium oxide has a BET surface area of about 0.54  $m^2/g$ .

4645.0844

- 5 -

42. (New) A method for producing a cathode active material, comprising the steps of:

- a) providing  $\gamma$ -phase silver vanadium oxide having the formula  $Ag_{1.2}V_3O_{8.1}$ ;
- b) mixing the  $\gamma$ -phase silver vanadium oxide with  $Ag_2CO_3$  to form a reaction mixture; and
- c) heating the reaction mixture to at least one reaction temperature in an oxidizing atmosphere to produce an  $\varepsilon$ -phase silver vanadium oxide having the formula  $Ag_2V_4O_{11}$ .

43. (New) The method of claim 42 wherein the  $\varepsilon$ -phase silver vanadium oxide has a BET surface area of about 0.44  $m^2/g$ .